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ABSTRACT

In July 1990, "Standards, Policies and Procedures for the Evaluation of Assessment Instruments Used in the California Community Colleges" was published, requiring colleges to determine whether current testing practices discriminate against members of underrepresented groups. The standard for demonstrating disproportionate impact comes from the Equal Employment Opportunity Commission (EEOC) guidelines. Disproportionate impact exists when any assessment instrument yields a selection rate for any race, gender, or ethnic group which is less than 80% of the rate for the group with the highest rate. If evidence for disproportionate impact exists, the school must demonstrate that the placement test is valid and not biased. Golden West College (GWC) uses the Combined English Language Skills Assessment (CELSA) to place non-native speakers of English into English as a Second Language (ESL) or English classes. A study was conducted at GWC to determine the impact of CELSA testing on historically underrepresented groups. The tested population included all students assessed in spring, summer, and fall 1993 (N=2,205). The sample was broken down by gender, age, language, and disability status. The study found no significant patterns of disproportionate impact for gender; however, there was possible impact for age, which appears to be related to years out of school, and for disability status. Follow-up investigations are recommended to explain results. (KP)

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Golden West College

June 1994

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Combined English Language Skills Assessment (CELSA): Analysis of Disproportionate Impact

In July 1990, the California Community College Chancellor's Office published Standards, Policies and Procedures for the Evaluation of Assessment Instruments Used in the California Community Colleges. Section III of that document presents a set of explicit criteria to be met by test publishers and another set to be met by the colleges as test users. Generally, these minimum standards charge the test publisher with the responsibility to evaluate the reliability, validity, and cultural or linguistic bias, insensitivity and offensiveness of placement instruments. In addition, the standards charge local community colleges with the responsibility to evaluate the local uses of the instrument. One requirement is to determine the impact of testing on members of protected student groups (The descriptors "under-represented groups" and "target groups" will be used interchangably in this report). Specifically, colleges must answer the question, do current local testing practices discriminate, whether intentionally or unintentionally, against members of protected groups?

The standard for demonstrating disproportionate impact comes from the Equal Employment Opportunity (EEOC) guidelines (1978) concerning disproportionate impact in employee selection. Generally, evidence for disproportionate impact exists when any assessment instrument yields a selection rate for any race, gender, or ethnic group which is less than four-fifths (eighty percent) of the rate for the group with the highest rate. A greater than four-fifths rate, however, will not be considered evidence of disproportionate impact. For example, if 50 white students and 50 black students take an English placement test, and 70% of

the white students but only 40% of the black students are placed in English 100, evidence exists for disproportionate impact because 40 is less than four-fifths of 70. In such a case the school must demonstrate that the English placement test is valid, and therefore the difference in placement rates is not reflective of inherent test bias. Specifically, those responsible for the school testing program must provide evidence that 70 percent of the white students and only 40 percent of the black students were indeed prepared for English 100.

As mentioned earlier, discrimination against a protected group by a selection process characterizes disproportionate impact. What exactly, then, defines a protected group? The California Community Colleges Standards states that students must be monitored by gender, age, ethnicity, and disability status. Although ethnicity is listed as a target classification, linguistic background may be an appropriate substitute for ethnicity as a grouping characteristic for the evaluation of ESL tests. Ethnic backgrounds where English is the primary language would obviously not be included in an ESL evaluation.

CELSA. All students at Golden West College are expected to take English and mathematics placement tests prior to initial enrollment, unless exempted on the basis of having earned an associate degree or higher, or by enrolling in six or fewer units without the intent pursuing a degree or certificate. Non-native speakers of English, however, are advised to take the Combined English Language Skills Assessment (CELSA) (Ilyin, 1992) prior to enrollment.

The CELSA is a language skills measure, which focuses primarily on grammar in a reading context. It contains passages appropriate for beginning, intermediate and advanced level students. Each passage involves common situations experienced by students and typically encountered in teaching materials. The CELSA is appropriate for testing students in community colleges,

universities, and high school ESL or foreign language programs. It is not suitable, however, for students in adult immigrant open enrollment pre-literate classes (Ilyin, 1992). At Golden West College (GWC), this course is ESL 900 (Ilyin, 1992). As such, at GWC, the CELSA is used in such a way that students who do not score sufficiently high to place into ESL 001 (Introduction to English Language II) "default" to ESL 900 (Introduction to English Language I).

Golden West College implemented the CELSA in the Spring of 1993 based on the supportive evidence of its validity and the recommendations for implementation that resulted from the pilot study (Isonio, 1992). That pilot study yielded the initial placement validity evidence and generated cut scores that comprise a placement rule for ESL at GWC (Table 1). Those cut scores were modified slightly prior to the Fall 1993 term.

According to current cut scores, students scoring below 24 on the CELSA are referred to the open enrollment ESL 900 course, as described above. All students scoring above 23 and below 34 are referred to ESL 001. Students who score 56 or above are also given the option to take the ESL Placement Writing Sample in addition to the CELSA. A final placement is then made to ESL 005, English 010, or English 100.

Table 1
Current CELSA cut scores for ESL placement recommendations.

Recommended Level	CELSA Score
ESL 900	<= 23
ESL 001	24 - 33
ESL 002	34 - 41
ESL 003	42 - 50
ESL 004	51 - 55
ESL 005 or Engl 010	56 - 61 *
Engl 010	62 - 66
Engl 010 or Engl 100	67 - 75 *

* Additional information provided by the student's ESL Placement Writing Sample.

One recommendation in the pilot study was the need to study the CELSA and the cut scores for possible disproportionate impact. The current project is in direct response to the recommendations from the CELSA pilot study and the State Chancellor's Office mandate to locally validate assessment instruments. Specifically, this project has the purpose of determining the impact of CELSA testing on historically underrepresented groups of students.

Method

Sample. The tested population included all students who were assessed using the CELSA during the Spring, Summer, and Fall terms of 1993 (N=2205). The specific sub-populations were determined by each of the ESL levels and further divided into special population groups. The special subgroups identified for the analysis were determined by the requirements set forth in the Standards, Policies, and Procedures for the Evaluation of Assessment Instruments Used in the California Community Colleges (1992). The sample was broken down by gender (N=2205), age

(N=1588), language (N=2103), and disability status (N=2054) groups (differences in the totals for the sub-samples reflect the numbers of non-responing students).

Design and procedure. Disproportionate impact was assessed by comparing the placement rates of each group against 80% of the rate for the group with the highest placement rate for each of the ESL levels. A placement rate which is less than 80% of the rate for the group with the highest rate (critical rate) will generally be regarded as evidence of disproportionate impact. Placement levels were determined by the cut scores presented in Table 1.

Results

Gender. Table 2 presents the number and placement rate of male and females that were recommended to each level of ESL courses based on the CELSA cut scores developed for GWC. The critical placement rate is shown in parenthesis. The referral rate for ESL 001 was 12.8% (N=151) for males and 14.9% (N=153) for females. Applying the EEOC 80% rule, the critical rate for ESL level 001 is 11.9% (80% of the female rate of 14.9%). Since the placement rate for males exceeds this value, there is no evidence for disproportionate impact for gender of the students for ESL level 1. Similarly, no other ESL level indicates a placement rate below its respective critical rate. Therefore, there is no evidence for disproportionate impact involving the gender of the students across all ESL course levels.

Disability. Table 3 presents the numbers and placement rates for each ESL level for students with self-reported learning disabilities (N=53, or 2.6% of the sample). For ESL levels 900, 1, 2, and 3, the placement rates for students with self-reported learning disabilities exceed their respective critical placement rates. For ESL levels 4, 5, and English 10, however, placement

rates are below the critical rate. The EEOC 80% rule results in critical rates of 8.1%, 9.6%, and 17.5% for levels 4, 5, and 10 respectively. The placement rate into level 4 for students reporting a verified learning disability was only 1.9%, for level 5 it was 7.5%, and for level 10, the rate was 3.8%. Thus, there is evidence of possible disproportionate impact on rates of placement for students with self-reported learning disablities at the upper levels of ESL, and into English 010.

Age. Table 4 presents the numbers and placement rates into each ESL level by age category. Results indicated that students under the age of 20 had placement rates lower than the critical rates at ESL levels 900 through 003. The placement rates for students between the ages of 20 and 29 were lower than the critical rate for levels 900, 3, 4, 5, and Eng 010. Placement rates were significantly low for students 30-39 years old at levels 1, 3, and Eng 010. Students 40 and above had significantly lower rates at levels 900, 1, 5, and English 010.

Primary language.

The disproportionate impact analysis for primary language is impractical, thus it yields inconclusive results. An illustration of the fact is that with 93% of the students being Vietnamese and the percentage for all of the rest of the students being only 7%, a change in one person within a given level could satisfy the 80% rule for possible disproportionate impact.

Discussion

The results yield no significant patterns of disproportionate impact for gender. In the cases of age , however, there is evidence of possible disproportionate impact. Similarly, students reporting a verified learning disability have referral rates to the upper ESL levels that are lower than the EEOC 80% standard.

Disproportionate impact appears to be the norm rather than the exception in the California Community Colleges. There is evidence for disproportionate impact in over 60% of the studies using EEOC guidelines at eleven community colleges (Matriculation Local Research Options Committee, 1992). The task at GWC now is to interpret the evidence for disproportionate impact by age and for students reporting learning disabilities.

Many factors affect students' test scores, such as their background characteristics as well as an assortment of other variables. The student background variables in this study include ethnicity, gender, learning disability status, and age. Moderator variables include, but are not limited to number of English courses taken, years out of school, motivational factors, processing of the test questions, and possibly test bias (Isonio, 1992). The problem is to identify which variable(s) account for the differential placement rates so that appropriate actions can be taken.

The different placement rates for age do not appear to be due to an unfair test. Rather, the differences in referral rates may partially be explained by relative differences in number of years out of school. Number of years out of school has been shown to have a negative correlation with student preparedness ratings (Thompson, 1994). That is, the longer a student has been out of school, the lower the rating by the instructor to the extent to which the student is prepared for the class. For the current population, 74% of students younger than 20 years reported being out of school less than two years. Only 1% reported being out of school between five and ten years. In contrast, 61% of students 30-49 years reported being out of school more than ten years, and 78% have been out of school at least five years. With older students reporting a higher number of years out of school, it follows that students 30-49 years would receive lower preparedness ratings. Since referral cut scores are based on preparedness ratings, and number of years is

negatively correlated with preparedness ratings, older students get lower ratings and younger students get higher ratings.

Lower referral rates for students with self-reported learning disabilities may be related to actual differences in performance because of their disability. Students with learning disabilities have more difficulties learning in their native language than do other students. It would follow that they would have more difficulty learning a second language, which would be reflected in their placement into the lower ESL levels at a higher rate.

Differences in referral rates related to disability status may also be a function of the ineffectiveness of the background questions. All background information, on which these group comparisons are entirely based, is of a self-report nature. While this tends to be a fairly reliable method, it is possible that some students will provide incorrect information because of carelessness or misinterpretation of the question (Isonio, 1992). This may be the case especially for the learning disability question. The specific wording of the question is "I have a verified learning disability (such as dyslexia)"; students may be unsure about the meaning of some of these words. Also, since the learning disability category is multidimensional, even if all responses are correct, the interpretation is difficult--some disabilities may be related to test performance whereas others might not.

Recommendations.

1. Follow-up investigations are necessary to explain why disproportionate impact was found in the cases of age and disability. The possibilities outlined in this report should be examined.
2. The "Learning Disability" category, on the CAPP form, should be clarified. This might entail specific instructions at the time of assessment.
3. It may be the case that some of the students reporting learning disabilities should have been tested under special conditions. Perhaps information about services, such as special testing accommodations, coordinated with the Disabled Students Office should be better disseminated.
4. The content of the student background information questions from the CAPP form should be reviewed for appropriateness for ESL students. Either rewording of the questions or possibly an alternate, translated form may be developed. The goal is to improve the accuracy of the self-report information.
5. Although not specifically called for by the Standards, differential validity studies, which would show whether a test has lower validity coefficients for protected groups, should be conducted for all placement tests currently being used at GWC.

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Table 2

Number and Placement Rate to Each English Course Level, By Gender

			ESL LEVEL													
			900		1		2		3		4		5		Eng 010	
Critical Rate:			(5.9)		(11.9)		(13.5)		(17.0)		(8.5)		(9.9)		(16.8)	
GENDER	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MALE	1179	53.5	87	7.4	151	12.8	199	16.9	250	21.2	112	9.5	146	12.4	234	19.8
FEMALE	1026	46.5	72	7.0	153	14.9	165	16.1	204	19.9	109	10.6	108	10.5	215	21.0
Total	2205		159		304		364		454		221		254		449	

Table 3

Number and Placement Rate into Each English Course Level, by Disability Status

			ESL LEVEL											
			900		1		2		3		4		5		Eng 010	
Critical Rate:			(12.1)		(19.6)		(19.6)		(18.1)		(8.1)		(9.6)		(17.5)	
DS*	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
YES	53	2.6	8	15.1	13	24.5	13	24.5	12	22.6	1	1.9	4	7.5	2	3.8
NO	2001	97.4	127	3.3	260	13.0	320	15.6	413	20.6	203	10.1	240	12.0	438	21.9
Total	2054		135		273		333		425		204		244		440	

*DS=Disability Status.

Table 4

Number and Placement Rate into Each English Course Level, by Age

			ESL Level											
			900		1		2		3		4		5		Eng 010	
Critical Rate			(8.5)		(13.1)		(14.6)		(23.2)		(9.5)		(12.0)		(22.6)	
AGE	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<20	505	31.8	20	4.0	46	9.1	69	13.7	94	18.6	57	11.3	76	15.0	143	28.3
20-29	691	43.5	55	8.0	113	16.4	114	16.5	139	20.1	57	8.2	68	9.8	145	21.0
30-39	216	13.6	23	10.6	26	12.0	34	15.7	45	20.8	21	9.7	27	12.5	40	18.5
40+	176	11.1	10	10.2	18	10.2	32	18.2	51	29.0	21	11.9	19	10.8	25	14.2
Total	1588		108		203		249		329		156		190		353	

Table 5

Number and Placement Rate into Each English Course Level, by Primary Language

			ESL LEVEL											
	Total		1		2		3		4		5		Eng 10	
Language	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SPANISH	9	4	3	33.3	3	33.3	0	0	0	0	2	22.28	1	11.1
CHINESE	4	2	2	50.0	1	25.0	0	0	1	2	0	0	0	0
VIETNAMESE	237	93	71	30.0	57	24.1	60	25.3	17	7.2	22	9.3	10	4.2
KOREAN	1	.5	1	100.0	0	0	0	0	0	0	0	0	0	0
OTHER	3	1	0	0	2	66.7	1	33.3	0	0	0	0	0	0
Total	254		77		63		61		18		24		11	

(Note: "Critical Rate is not included due to the impractical nature of conducting a disproportionate impact anaysis on an essentially homogeneous group.)